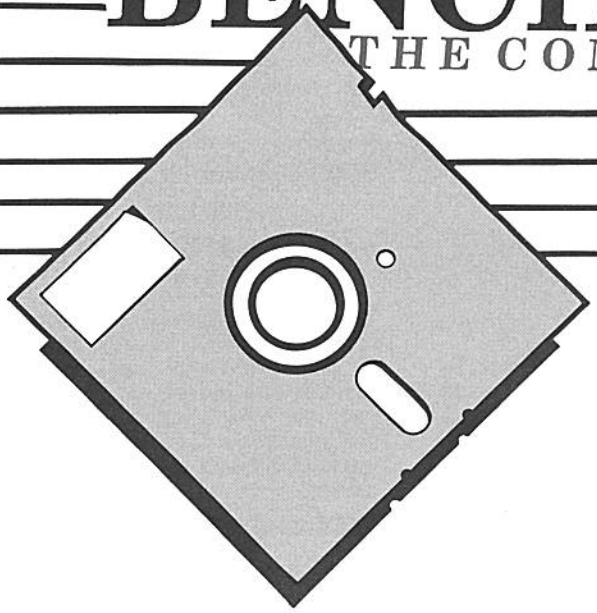
BENCHMARKS
THE COMPUTING CENTER

NORTH TEXAS STATE UNIVERSITY
The University of North Texas
VOLUME 9 NUMBER 1
JANUARY/FEBRUARY 1996



IN THIS ISSUE . . .

	PAGE
GENERAL INFORMATION	
Changes in Academic Computing Staff	1
Library System Access Procedure Changed	1
MUSIC/SP Upgraded to Version 1.2	1
Spotlight on MUSIC 1.2, Part IV - REXX Editor Macros	2
MUSIC PTPCH Utility Modified	3
Problems With Some SAS Procedures	3
Named Accounts Available on VAX and CMS	3
As The Spring Semester Begins	3
Computing Center Short Courses	4
Laser Printer Environment for Music Symbols Considered	5
On-Line Job Search Service Available	5
BENCHMARKS Forum	6
MICROCOMPUTERS	
Site Licensed Microcomputer Software at NTSU	7
WordPerfect 5.0	8
Micro-Tips	8
Bizarre Computer Products	9
VAXEN	
Personalizing the VAX/VMS MAIL Utility	10
VAXNotes	11
Copying Files Between VAX Accounts	11
December Top Ten Programs: Frequency of Runs	12
December Top Ten Programs: CPU Time Used	12
ADMINISTRATIVE INFORMATION SYSTEMS	
Requesting Extended Hours on Administrative Production COM-PLETE	13
Staffing Changes	13
OPERATIONS	
NAS/8083 Dual Processor Performance Statistics for December	14
Disk Backup Schedules	15
TECHNICAL SUPPORT	
ACADemic (NAS) Program Hit Parade	15

SERVICES AVAILABLE TO USERS OF THE NTSU COMPUTING FACILITIES

The NTSU Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center:	(817) 565-2324
Help Desk:	(817) 565-4050
Graphics Lab:	(817) 565-3479
ISB I/O Area:	(817) 565-3890
BA I/O Area:	(817) 565-2350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on MUSIC/SP (ID-codes follow each name. All IDs are on BITNET node NTSMUSIC).

BENCHMARKS - Claudia Lynch (AS04)

Information & ID-Codes; Disk Space Problems - Carolyn Goodman (AA03)

Statistical/Research Support - George Morrow (AS01), Scott Barber (AC10), Claudia Lynch (AS04), Jim Aman (AC29)

Academic ADABAS/COM-PLETE - Sean Widmer (AC38)

CRSP & COMPUSTAT Problems - George Morrow (AS01)

Student Programming Problems - CSCI Dept., GAB Room 542A; BCIS Dept., BA Room 152

Problems with JCL, Passwords, or Operating Systems; or Communication/Terminal Problems - Help Desk

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BA I/O Operators

DIALING UP NTSU COMPUTERS OVER THE TELEPHONE

Phone numbers for the Local Area Network (LAN) are:

300/1200 BAUD: (817) 565-3300; 3499

300 BAUD: D/FW METRO 429-6006

1200 BAUD: D/FW METRO 429-9314

The numbers that will accept either 300 or 1200 baud communications have an autobaud feature that requires you to hit the <RETURN> key repeatedly so that the receiving modem can determine the appropriate baud rate. When you have established a communications link, the # prompt will appear on your screen and you can enter one of following CALL commands to connect with the computer of your choice.

CALL 8040 connects with the NAS/8083 (supports line editing or PCWS). Operating environments available are: MUSIC/SP, VM/CMS.

CALL 3270 connects with the NAS/8083 through a 3270 protocol converter (supports full-screen editing). Operating environments available are: MUSIC/SP, VM/CMS, ADABAS/COM-PLETE, PHOENIX

CALL DEC connects with the VAXcluster (VMS, Eunice)

CALL 780 connects with the Research VAX (Unix)

CALL 3000 connects with the Libraries' HP-3000 (Bibliographic data base).

CALL 6800 connects with the NBI (Unix)

HOURS FOR NTSU COMPUTER ACCESS AREAS : SPRING 1988*

Location	Times	Days
Computing Center RJE	Noon-Midnight 7 a.m.-Midnight 7 a.m., Tuesday-Midnight, Saturday (Open 24 hours/day)	Sunday Monday Tuesday-Saturday
ISB 110 Terminal Area	2-10 p.m. 7:30 a.m.-Midnight 7:30 a.m.-6 p.m. 9 a.m.-6 p.m.	Sunday Monday-Thursday Friday Saturday
College of Business	Noon-11:45 p.m. 8:15 a.m.-11:45 p.m. 8:15 a.m.-7:45 p.m.	Saturday, Sunday Monday-Thursday Friday
GAB 550C	2 p.m.-Midnight 8 a.m.-Midnight 8 a.m.-5 p.m. 2-8 p.m.	Sunday Monday-Thursday Friday Saturday
Graphics Lab	Noon-10 p.m. 8 a.m.-11 p.m. 8 a.m.-8 p.m. Noon-5 p.m.	Sunday Monday-Thursday Friday Saturday

*Hours may vary. Check MUSIC/VAX News and/or posted schedules for exceptions.

Unless otherwise noted, articles or information in BENCHMARKS may be reproduced for nonprofit purposes provided the publication and issue are fully acknowledged.

GENERAL INFORMATION

Changes in Academic Computing Staff

By Claudia Lynch, *Benchmarks* Editor (AS04@NTSMUSIC)

We are pleased to announce that Dave Molta, who has been Acting Manager of Academic Computing Services since June of 1987, has been named Manager of Academic Computing Services. In addition to his excellent managerial skills, Dave brings a great deal of technical expertise to the position. He is extremely knowledgeable with regard to microcomputer hardware and software and is deeply involved with all aspects of networking technology. We know that Dave will be an asset not only to the Computing Center but to the entire University Community.

Unfortunately, it is also necessary to announce the resignation of two very valuable employees, Ron Brashear and Panu Sittiwong. Ron, who has been the VAX System Manager since June of 1985, has taken a similar position with Mobil Oil Company in Dallas. Panu, who has been a mainstay of the part-time Academic Computing Services consulting staff since August of 1984, accepted a full-time consulting position in the Computing Center at SMU. We wish both Ron and Panu the best of luck in their new endeavors.

Some reshuffling of our part-time staff has occurred as a result of the resignations of Ron and Panu. Billy Barron, a VAX Operator, has been appointed to be the Acting VAX System Manager. Panu's position remains unfilled, although we have added an additional part-time employee, Nelson Cicchito, who has assummed Panu's duties as Graphics Lab Supervisor. Nelson, who had been working in the Graphics Lab, will also be sharing microcomputer support duties with Jim Aman. We are pleased to have Nelson and Billy working with us in their new capacities. §

Library System Access Procedure Changed

You will no longer be prompted to enter TERMINAL TYPE and LOCATION CODE when accessing the NTSU Libraries' biblographic data base system, according to Jeanette Mann, NTSU Libraries' Computer Operator. The procedure that was described in the December 1987 issue of *Benchmarks* has been modified so that a user may begin searching the libraries' system immediately after a connection has been established. Just enter **/HELP** and depress the <RETURN> key to obtain the general help screen.§

MUSIC/SP Upgraded to Version 1.2

MUSIC 1.2 is here, as promised. It should be noted that the full-screen Context Editor default Program Function (PF) keys have been changed to better conform to the standard found on other IBM operating systems. If you wish to use the old default PF key defiiitions, perform the following procedure:

In *GO mode type: **EDIT OLDEDIT**

At the Editor command line type: **SAVE EDITOR**

You will now have a file in your MUSIC account called EDITOR which contains definition statements for your editor PF keys. If you already had an EDITOR file, you would not need to change it, however any PF keys not defined in the file will take on the new default values.

The LIBrary command has also been slightly changed. A search specification is now necessary for use of LIBrary parameters such as Full. For example, to see a full listing of all your Save Library files, you can type **LIB * F** (the "*" in this case acts as a wild card character.) You can type **HELP LIBRARY** for a complete description of this command.

If you would like an overview of changes to MUSIC, type **HELP MUSIC12** from *GO mode. This will give you a description of the general changes made to the MUSIC system under version 1..2, and also spotlight four important topics: MUSIC VSAM, MUSIC 1.2 Commands and Job Control Statements, The Context Editor under MUSIC 1.2, and REXX Editor MACROS. These same topics were covered in five Benchmarks articles:

- "Highlights from the Fort Worth MUG," (Vol. 8, No. 5, June/July 1987).
- "Spolight on MUSIC 1.2, Part I - VSAM," (Vol. 8, No. 7, October 1987).
- "Spotlight on MUSIC 1.2, Part II - Commands and Job Control Statements," (Vol. 8, No. 8, November 1987).
- "Spotlight on MUSIC 1.2, Part III - The Context Editor," (Vol. 8, No. 9, December 1987).
- "Spotlight on MUSIC 1.2, Part IV - REXX Editor Macros," (Vol. 9, No. 1, January/February 1988).

If you would like a printed copy of the topics mentioned above, they are available in a handout entitled "An Overview of MUSIC/1.2." The handout can be obtained from the Computing Center offices (ISB 119, 565-2324).§

Spotlight on MUSIC 1.2, Part IV - REXX Editor Macros

By Philip Baczewski - MUSIC Time-share Coordinator
(AC12@NTSMUSIC)

NOTE: This is the last in a series of articles highlighting some of the important new features of MUSIC/SP Release 1.2 . This series is intended to provide introductory information to assist NTSU faculty, students, and staff in planning for the changeover to this new version of MUSIC.

Introduction

One very powerful feature of MUSIC 1.2 is the implementation of editor macros written in the REXX language. For those unfamiliar with macros or REXX, perhaps some definitions are in order. An editor **macro** is a collection of REXX programming statements or editor commands which perform a series of editor operations. By defining a macro, a much-used series of commands may be accomplished simply by typing one command (the macro name).

REXX stands for **R**Estructured e**X**tended e**X**ecutor. Originally written for the VM/SP operating system, REXX is an ideal language for writing command procedures (a series of commands executed like a small program) because of its ability to parse variable strings and its support for structured programming. REXX is an interpreted language. That is, the REXX program is executed line-by-line and word-by-word, without having to be translated to another form (compiled). REXX, therefore, is a fairly simple language to use. Most REXX editor macros will use several Context Editor commands in combination with a few REXX statements.

Why Editor Macros?

Editor macros allow you to "automate" often-performed series of commands and may also provide extensions of the editing environment. Suppose, for example, that you frequently place identifying sequences which are longer than eight characters in certain files that you edit. If **XYZ12A** is an identifying string and you wish also to have a three-digit sequence number, the total length would be nine characters, one longer than is allowed by the editor **SEQUENCE** command. You would need to enter the following editor commands to create your required sequence (the bold letters are the commands, an explanation of their effect appears in parentheses):

TOP	(move the pointer to the top of the file)
REPEAT 999	(the next command will be repeated a maximum of 999 times)
OC71 XYZ12A	(overlay the string "XYZ12A" starting in column 71)
TOP	(move the pointer to the top of the file)
SEQUENCE 1 1 COL=77 LEN=3 LINES=999	(place sequence numbers in columns 77-79 for a maximum of 999 lines)

This series of commands would put the following sequence in columns 71-79 of your file:

XYZ12A001

XYZ12A002

XYZ12A003

etc.

To avoid typing the five commands above every time you wished to sequence your file, you could, in MUSIC 1.2, write the following editor macro:

```
/* IDSEQ - place ID sequence in Columns 71-79 */
parse arg idseq     /* read ID sequence */
TOP                 /* pointer to top of file */
REPEAT 999          /* do next editor command up to 999
                       times */
OC71 idseq          /* overlay the ID sequence starting in
                       column 71  */
TOP                 /* pointer to top of file */
SEQUENCE 1 1 COL=77 LEN=3 LINES=999
                    /* place sequence numbers in columns 77-79
                       for a maximum of 999 lines) */
```

If you named the above macro "IDSEQ", any time you wished to place your ID sequences in a file you could type **IDSEQ string** from the editor command line, where **string** is your six-character identifying string (i.e. in the example above, XYZ12A). In the example macro above, REXX commands and variables are shown in lower case, and editor commands are in upper case. The text found between the /* and */ are comments.

One example of extending the editor environment would be to create a macro for listing the files in one's MUSIC save library. REXX in MUSIC 1.2 allows such a function through a newly-added **REXLIB** statement. The following editor macro would allow you to view a list of your MUSIC files from within the editor:

```
/* ELIB - list save library files */
'rexlib * q'        /*read list of files into REXX stack */
nfiles=queued() /* find number of filenames in the stack */
say 'You have the following 'nfiles' files in your Library'
do i = 1 to nfiles /* print out file names */
                    pull filename
                    say filename
end
```

If the above macro were named "ELIB", you could type **ELIB** at the editor command prompt to see a list of your files. If you wanted to view the contents of a particular file, you could then

use the editor **LIST** command. A fancier version of the "ELIB" macro might use the MUSIC PANEL facility to present a full-screen display of your file names and allow you to list a file by positioning your cursor over the particular file name on the screen and then pressing a PF key.

Using Editor Macros

To use these REXX macros in MUSIC 1.2, you must first enable the Context Editor to find your macro files. To set up your editor for macro use, you will need to create a file named "EDITOR" containing the following lines:

```
/SYS REGION=256
/FILE MACLIB PDS(*.MAC)
/INCLUDE *COM:EDITOR
REX ON
```

In this example, all of the macros you create would need to be named in the format *cmdname*.MAC, where *cmdname* is the macro command to be issued from the editor. The macro files for the above examples would have to be named **IDSEQ.MAC** and **ELIB.MAC** in order for the editor to find them.

For More Information...

Creating simple editor macros in MUSIC 1.2 will not necessarily require programming skills, although experienced MUSIC users with programming experience may find that REXX provides them the ability to easily customize their MUSIC editor. It is also anticipated that certain macros of universal utility (like an editor "LIBRARY" command) can be made public and available to all MUSIC users. Those who wish to write their own editor macros may wish to consult the following references:

MUSIC/SP 1.2 User's Reference Guide, "Chapter 9, Using the Editor - Editor Macro Facility in REXX"

Cowlishaw, M. F., *The REXX Language: a Practical Approach to Programming*, Prentice Hall, Englewood Cliffs, N.J., 1985.

VM/SP System Product Interpreter User's Guide, IBM publication number SC24-5238.

VM/SP System Product Interpreter Reference, IBM publication number SC24-5239.§

MUSIC PTPCH Utility Modified

The MUSIC PTPCH utility program for printing files on an OS/MVS high-speed printer has been modified so that a file can be indented from 1 to 20 spaces. For example, if you specify **INDENT=5** along with the rest of the required parameters, your file will be printed with an additional 5-space left-hand margin.§

Problems With Some SAS Procedures

We have been notified that PROC RSREG and PROC GCONTOUR in Release 5.16 (our current release) of SAS on OS and CMS have some problems. In PROC RSREG, the output produced by the LACKFIT option on the MODEL statement is incorrect if a WEIGHT statement is used. Contour lines drawn by PROC GCONTOUR may not be in the correct location if the data values for the variables on the X and Y axes are not equally spaced. These problems will be fixed in the near future, however if you have run either of these procedures in the past it would be wise to recheck your results.§

Named Accounts Available on VAX and CMS

People with individual or faculty User-ID codes (non-class accounts) may request a 'personal' username from the Computing Center. The new username would then be used instead of the old User-ID on VAX/VMS and/or on VM/CMS. People who do a lot of "networking" (communicating over BITNET, THENET, etc.) might find it easier for others to remember their address if it is some variation of their name.

If you would like to request a named account on either VAX/VMS or VM/CMS, you will need to fill out a "Request for Named Account" form, available in the Computing Center Reception Area (ISB 119). You will be asked for three choices for your new username. Each choice should be eight characters or less in length and should contain no spceial characters or blank spaces. It is recommended that you use some variation of your name, preferably your last name. For more information contact the Computing Center (565-2324).§

As The Spring Semester Begins.....

By Carolyn Goodman, Computing Center Administrative Services

It is the beginning of a new semester and time to remind you of a few things.

Students: Remember, don't throw that USERID ASSIGNMENT NOTICE in the trash. Even though you may have changed your passwords, something could happen so that you'll need to check your "original" password.

Faculty: Now is the time to request your classroom userid accounts. You will need to complete a blue "New Userid Request Form" and the accompanying white "Classroom ID Usage Projection" form. The Computing Center is available to assist you, and your classes, by offering our spring selection of Short Courses (listed on the following page), as well as individually scheduled short courses at your request. We will be glad to reserve the public access terminal area in the Information Science Building (Room 110) for you and arrange for a Computing Center Consultant to instruct your students in such topics as MUSIC, SAS, SPSS^X, or other Computing Center supported software systems. It is also possible to schedule the use of the Computing Center's Graphics Lab, located in the lower level of the Information Science Building.§

Computing Center Short Courses

The Computing Center is offering the following short courses during the Spring Semester. Please pre-register to attend (a registration form is provided at the end of this issue). **A maximum of 15 people will be admitted to each of the Introduction to MUSIC/SP classes, parts I & II. A maximum of 20 people will be admitted to each of the remaining classes.**

1. **Introduction to MUSIC/SP, Part I** – MUSIC/SP is the primary interactive operating system employed by most academic users to access the NAS/8083 IBM-compatible mainframe computer at NTSU. MUSIC users have access to a variety of programming languages, a sophisticated word processing system, and several statistical analysis packages. MUSIC also gives you the capability to submit batch jobs to the MVS operating system. Topics covered include gaining access over the Local Area Network, logging on and off, changing your password, and creating, editing, and storing files using the full-screen editor.

   Six separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

   Monday, February 22: 9--11 a.m.
   Instructor: George Morrow

   Tuesday, February 23: 3--5 p.m.
   Instructor: Jim Aman

   Friday, February 26: 1--3 p.m.
   Instructor: Nelson Cicchitto

   Monday, March 28: 9--11 a.m.
   Instructor: George Morrow

   Tuesday, March 29: 3--5 p.m.
   Instructor: Jim Aman

   Friday, April 1: 1--3 p.m.
   Instructor: Nelson Cicchitto

2. **Introduction to MUSIC/SP, Part II** – This course provides an in-depth look at various useful programs and utilities that are available on MUSIC/SP. Topics covered include accessing on-line help facilities, using electronic mail, routing output to high-speed printers, and writing files to secondary storage such as disk and tape. **A working knowledge of MUSIC is required.**

   Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

   Monday, February 29 : 6-8 p.m.
   Instructor: Philip Baczewski

   Monday, April 4 : 3-5 p.m.
   Instructor: Philip Baczewski

3. **Introduction to IBM Job Control Language (JCL)** – This course provides an overview of IBM JCL for users who wish to further their knowledge in this area. It is useful to individuals who plan to run batch jobs (e.g. SAS, SPSS^X, BMDP) on the IBM-compatible mainframe computer.

   A two-hour session to be held in ISB 123:

   Wednesday, February 24: 1-3 p.m.
   Instructor: George Morrow

4. **Introduction to SAS** – SAS is one of the most widely implemented data analysis systems within business and education. SAS is particularly well suited for data set manipulation and includes an extensive procedure library providing a wide range of analytical tools. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SAS, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. **Prior knowledge of MUSIC/SP is required.**

   Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

   Thursday, February 25 : 6-8 p.m.
   Instructor: Sean Widmer

   Thursday, March 31 : 3-5 p.m.
   Instructor: Sean Widmer

5. **Introduction to SPSS^X** – SPSS^X is the latest version of this popular data analysis system originally developed for social scientific research. While SAS is slightly more powerful for the analysis of complex datasets, many users find SPSS^X to be easier to learn. SPSS^X also includes more flexible facilities for collapsing and labeling variables. This course is recommended for individuals who plan to incorporate statistical analyses into their research. Topics covered include the reading of data into SPSS^X, simple data transformations, recoding variables, labeling output, and performing simple univariate and bivariate analyses. **Prior knowledge of MUSIC/SP is required.**

   Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

   Wednesday, February 24: 6-8 p.m.
   Instructor: Jim Aman

   Wednesday, March 30: 3-5 p.m.
   Instructor: Jim Aman

6. **File Handling with SAS, SPSS^X, and BMDP** – Anyone who uses these common statistical packages frequently should be aware of procedures available to simplify reading and processing datasets. Variable formats, labels, and computed variable information can be stored in a dataset and recalled in a future job with one command. This course shows you how to use simple JCL along with the statistical software to make your jobs run much more quickly and smoothly. Familiarity with at least one of the packages menioned is necessary.

   Two separate two-hour sessions to be held in ISB 123:

   Monday, February 29: 1-3 p.m.
   Instructor: Scott Barber

   Monday, February 29: 1-3 p.m.
   Instructor: Scott Barber

7. Introduction to VAX/VMS, Part I – VMS is the interactive operating system used on the Digital Equipment Corporation (DEC) VAXcluster. Nearly all popular programming languages are supported under VMS. The topics covered in this course include gaining access to the VAXcluster through the Local Area Network, logging in and out, changing your password, creating files and directories, creating login command files, using the EDT editor, and defining logicals and symbols.

Two three-hour sessions to be held in Room 110 of the Science Library (ISB).

Thursday, February 25: 2-5 p.m.
Instructor: Billy Barron

Monday, March 28: 2-5 p.m.
Instructor: Billy Barron

8. Introduction to VAX/VMS, Part II – This course provides a more detailed examination of VMS commands and utilities. The topics covered in this course include use of the electronic mail and messaging systems, creating command files, advanced editing using TPU, and sending mail through BITNET. **Prior experience using VAX/VMS is required**

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Tuesday, March 1: 1-3 p.m.
Instructor: Billy Barron

Tuesday, March 1: 1-3 p.m.
Instructor: Billy Barron

9. Introduction to BITNET – BITNET is a network linking more than 600 computers at over 300 institutions and research centers. This course covers the basic concepts of BITNET, file transfers across BITNET sites, and other services that are available on this computer network. Faculty and graduate students needing to exchange information with other universities and research institutions in the U.S., Canada, Europe, or Japan will benefit greatly from attending this course. **Prior knowledge of at least one of the following interactive operating systems is required: CMS, MUSIC, VAX.**

Two separate two-hour sessions to be held in Room 110 of the Science Library (ISB):

Wednesday, February 24: 3-5 p.m.
Instructor: Philip Baczewski

Wednesday, March 30: 6-8 p.m.
Instructor: Philip Baczewski

10. Introduction to SPSS PC + – This course covers the basics of using SPSS PC+, Version 2.0, for IBM and compatible PCs. Topics covered include using the new menu and help interface in REVIEW, loading files, select variables and running statistical analyses. Emphasis will be placed on building files for execution in a "batch" mode. **Prior knowledge of the SPSS command language is required.**

A three-hour session to be held in Matthews Hall, Room 350:

Wednesday, February 17: 2-5 p.m.
Instructor: Scott Barber

11. Introduction to SAS PC – This course covers the basics of using SAS PC, Version 6.02, for IBM and compatible PCs. Topics covered include using menu interfaces, loading files, selecting variables and running statistical analyses. Emphasis will be placed on building files for execution in a "batch" mode. **Prior knowledge of the SAS command language is required.**

A three-hour session to be held in Matthews Hall, Room 350:

Thursday, February 18: 2-5 p.m.
Instructor: Sean Widmer §

Laser Printer Environment for Music Symbols Considered

Several people have requested the creation of a printing environment that supports common musical symbols on the HP 2680A laser printers. The laser printers, located in the ISB and BA (REMOTE1, REMOTE4), would then be able to print characters such as quarter notes, half notes, whole notes, sharps, flats, clef symbols, etc. If you are interested in printing such characters, please stop by the Computing Center offices, ISB 119, and complete a form indicating which characters you would like to see included in the environment file. §

On-Line Job Search Service Available

According to the September 1987 issue of *DirecTIons: The Magazine for Texas Instruments Computer Users*, The Delphi online information service now has the U.S. Employment Opportunities (USEO) report on its Business and Finance menu. Information is available on four areas of employment: Advertising/Public Relations, Banking and Finance, Computers, and the Federal Government.

Each report consists of two parts. The first part is a general overview of current employment needs in a particular industry. The second part, entitled "Where Opportunities are Best," is divided into "entrance/mid-level" and "senior level" job vacancy information. This information is updated monthly.

It is possible to access the Delphi service by using a personal computer and a modem. To join Delphi, or for a preview of the services available, dial (617) 576-0862 with any terminal or PC and a modem (at 2400 bps, dial 576-2981). At the Username prompt, type **JOINDELPHI**, and enter **SIGNUP** when asked for a Password. The lifetime membership fee of $49.95 includes two free hours of use. For more information, call Delphi Member Services at (800) 544-4005.§

BENCHMARKS FORUM

BENCHMARKS Forum *is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the* Benchmarks *editor* (AS04@NTSMUSIC) *or write it down and drop it by the Computing Center. Deadlines permitting, we will try to answer it in the next issue.*

Question: *If I delete a file on the VAX, can I get it back?*

Answer: You can get back a copy of the file as it was at 3 AM in the morning that day. If you haven't changed the file during the day, there will be no problem. However, if you created or changed the file during the day it was accidentally deleted, you will have to redo all the typing you did during the day. To get a file restored, you need to send a MAIL message to the OPERATOR account on the VAX. The VAX operators will handle your request as soon as they possibly can.

Question: *Recently, while I was logged in to the VAX, I attempted to access a file and received the following error message: "File Locked By Another User." What does this mean and what can I do about it?*

Answe: This error message usually occurs when you are logged onto the VAX twice and using the same file. The most common way this happens is when you have been disconnected and call back to the VAX. After you call back, type **WHO**. You will probably see your userid with the word "Disconnected" out to the side. The best way to solve this problem is to use the **SET HOST** command to get on the VAX where your Disconnected process is and then type **DIE**. It will show you information on the Disconnected Process and ask you to confirm the stoppage of it. After you have done this, you should no longer get the message "File locked by another user."

Question: *While logged in to the the VAX, I was "phoned" by XX00. How can I find out who this is?*

Answer: The FINGER utility is used to find out the owner of a VAX account. For example, to discover who XX00 is type **FINGER XX00**. For more information type **HELP FINGER**.

Question: *How can I find out the userid of someone if I know their name?*

Answe: The USERID utility is used to find userids of VAX account holders. This utility is essentially the opposite of the FINGER utility. USERID will print out all account holders whose name matches your input. The format is **USERID** *name*. Type **HELP USERID** for more information.

On MUSIC, at the *GO prompt, type **USERID** *name* where *name* is the person's last name or a portion of their last name.

Question: *I have been trying without success to send a BITNET message to someone on the JANET network in Great Britain. Is there a special address format I need to use to send to a JANET address?*

Answer: The following article by Chris Condon, reprinted form the January 1988 issue of the electronic magazine *Netmonth*, may shed light on JANET and the JANET address structure:

> JANET is the Joint Academic NETwork supported by the Science and Engineering Research Council in the United Kingdom. Mail names in JANET, and many other networks, are composed of a set of components which define the target computer. In order of significance the components are:
>
> UK - this is known as a 'top level domain'
>
> AC - meaning academic community or CO meaning commercial
>
> site - for example OXFORD.
>
> dept - Subsequent components define the machine or a department.
>
> Within JANET, address components are concatenated with the most significant one first and separated by '.'. For example:
>
> ALICE%UK.AC.OXFORD.PHYSICS.VAX
>
> This is exactly the opposite of the way in which we are used to dealing with Internet addresses. Normally, the top level domain is at the end of the address. For example:
>
> CONDON@VENUS.YCC.YALE.EDU
>
> This difference in ordering gives rise to considerable confusion, because the internal JANET address scheme will not work in BITNET. However, your problems will be minimized if you remember this simple rule: Reverse the JANET address so that the "UK" is at the end. For example:
>
> ALICE%UK.AC.OXFORD.PHYSICS.VAX
>
> would become:
>
> ALICE@VAX.PHYSICS.OXFORD.AC.UK
>
> There is an id called POSTMASTER at each site for enquiries when attempting to locate somebody.

If you are using the VAX MAIL program to send your message, you can use the UK% prefix at the "To:" prompt. Using the above address as and example, you would type:

UK%"ALICE@VAX.PHYSICS.OXFORD.AC.UK"

CMS users could add ALICE@VAX.PHYSICS.OXFORD.AC.UK to their names file as described in the Computing Center publication, *An Introduction to Bitnet.* §

Benchmarks Reader/User feedback is encouraged. Send all letters, suggestions, etc. to (AS04@NTSMUSIC) or:

North Texas State University
The Computing Center
NT Station, Box 13495

MICROCOMPUTERS

Site Licensed Microcomputer Software at NTSU

By Scott Barber, Academic Computing Services Staff
(AC10@NTSUVAX)

As with many products, microcomputer software can be purchased (licensed) in individual copies or in "bulk" with mass purchase typically being a better bargain. Because software is easily duplicated, contracts are made with vendors for multiple copies of a package to be licensed and distributed at a discount rate. Usually, the license provides for mass duplication and distribution of the software with various restrictions. Such constraints can involve the types of users (full-time faculty, staff, students), the application (non-commercial use), the duration of the license, etc.

Rather than purchasing individual copies of some software, North Texas State University (soon to be the University of North Texas) has made such "site license" agreements with several vendors. Academic Computing Services distributes the following software packages free of charge. (All software described here must be run on an IBM or IBM-compatible microcomputer such as the NT-PC or NT-AT.

SPSS-PC + V2.0

A full-featured statistics and data analysis package similar to the popular SPSS-X software for mainframes. Though command driven, it has facilities for editing and running programs interactively or in batch mode. You can transport system files to and from the mainframe, conduct advanced statistical analyses, and produce high-quality plots with the Microsoft Chart interface.

SPSS-PC + V2.0 requires a hard disk with at least 10MB of free space and at least 512K of RAM. A math-coprocessor is not required, but recommended due to the extensive calculations done by the program. SPSS-PC + is available to full-time faculty and staff for installation on university-owned PCs. To obtain a copy, contact me at 565-2324.

SAS-PC

SAS-PC is virtually identical to the version of interactive mainframe SAS for statistics and data analysis. SAS-PC also provides the capability to edit and execute programs on the PC for processing on the mainframe. Data and program files can be exchanged between the PC and the mainframe.

SAS-PC requires at least 10MB of free space on the hard disk, 640K of RAM, and a math coprocessor is recommended. SAS-PC is available to full-time faculty and staff for installation on university-owned PCs. To obtain a copy, contact Sean Widmer at 565-2324.

Microcrunch

This statistics package is much smaller (it comes on 2 diskettes) than SPSS-PC + or SAS-PC, but it performs a number of sophisticated statistical procedures, including logit and probit analysis, OLS regression, pooled regression, regression diagnostics, analysis of autocorrelation, and data aggregation. It is completely menu-driven and therefore relatively easy to use with a minimum of learning.

Microcrunch requires a dual-floppy or hard disk configuration. You should have 256K of RAM, and a math-coprocessor is not required. It is available for faculty, staff, and students and can be obtained by contacting any of the Academic Computing statistical consultants at 565-2324.

Procomm

Procomm is a general-purpose microcomputer communications package. It can emulate several popular terminal types including VT-100 and ANSI (for BBS users); it supports several file transfer protocols including Kermit, XMODEM, YMODEM, WXMODEM, etc.; it has a command language for automating routine communications tasks; has a "host" mode for receiving calls from another microcomputer; and is menu-driven for ease of use. It can be used to connect with the VAX cluster, MUSIC, CMS, and Com-plete operating systems.

Procomm requires 192K of RAM, an asynchronous communications card or internal modem, and one floppy drive or a floppy drive and a hard disk. It is available for faculty, staff, and students and can be obtained by bringing a formatted diskette to the receptionists in ISB 119.

PCWS

PCWS is a communications package specifically written for communicating with the MUSIC operating system. It is a terminal and file transfer program, and supports a command language for automating various communications functions. Full-screen editing is possible by bypassing the protocol converters (you can CALL 8040) and using the "PCWS" terminal type. A couple of major advantages are:

1) File transfer and full-screen editing are possible within the same communications session.

2) You can view page back and forth through up to 50 pages output.

PCWS requires 192K of RAM, an asynchronous communications card or internal modem, and one floppy drive or a floppy drive and a hard disk. It is available for faculty, staff, and students with a MUSIC ID and can be obtained by bringing a formatted diskette along with your ID to the receptionists in ISB 119.

HyperGrpahics Training Systems Software: tbtAuthor and HG StoryBook Presents

*Hyper*Graphics is a Denton based company whose goal is "to develop computer based training (CBT) solutions for the business and educational community." Their CBT product, tbtAuthor, is available to all full-time faculty and staff members free of charge. The system documentation, however, must be purchased from *Hyper*Graphics at a cost of approximately $75.

HG StoryBook Presents, a subset of tbtAuthor, is frequently used to make large group presentations from a microcomputer. It is also available to all full-time faculty and staff members at no charge. In order to use HG StoryBook Presents effectively, it is necessary to purchase a Kodak Datashow Projection system (about $1,000). This can be acquired from either *Hyper*Graphics Corporation or another authorized Kodak distributer.

The system requirements for tbtAuthor and HG StoryBook Presents are an IBM PC, XT, AT or work-alike; floppy or hard disk; 512K RAM; Color Graphics Adapter (CGA) or EGA in CGA mode. Copies of the software can be obtained from Carolyn Goodman in the Computing Center offices (ISB 119, 565-2324). §

WordPerfect 5.0

by Sandy Franklin, Office Automation Specialist

Condensed from "Incompatibles and WordPerfect 5.0," Richard P. Wilkes, Publisher/Technical Editor of The WordPerfectionist, Newsletter of the WordPerfect Support Group, Vol. II, No. 10, Page 2.

The new version of WordPerfect, expected some time at the end of February 1988, will not be released in special versions for non-IBM PC compatible computers such as the DEC Rainbow, TI Professional, Tandy 2000, Apricot, Victor 9000, NEC APC III, and the Zenith Z/100. WordPerfect Corporation will continue to support the 4.2 version of WordPerfect until 1990 for the incompatibles and IBM WP users who choose not to upgrade. WordPerfect 5.0 will have a Save in 4.2 format so that the incompatibles will still be able to exchange information with PC's that have been upgraded.

Continued development would require special programming and testing to deal with the idiosyncracies of each of the incompatibles. That translates to too much time for too little return. WordPerfect has been taken as far as is practical on these limited market machines.

While it's disappointing that the next revision will not be released for these machines, WP 4.2 will probably meet word processing needs well into the 1990's. Standards change, and technology marches forward. The computer you buy today is already several steps behind the state-of-the-art. What does that mean to you? Well, if you are at the low end of the technology scale, you can expect word processing development to pass you by sooner that if you are at the forefront. Upgrades to your existing equipment can stave off obsolescence, like adding memory to your 256K RAM machine, adding a hard disk of you have a dual floppy machine, adding a speed-up board if your program becomes to slow for you and the types of documents you work with.

This type of upgrade is what is looked for to help with the "incompatibles." "Emulation" software and hardware products are appearing to help make some of these machines more IBM PC compatible. *The WordPerfectionist* has asked for user input as to how these emulation products word with existing WPCorp software.§

Micro-Tips

This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the BENCHMARKS editor for possible inclusion in a future issue.

An Obscure Feature of the DISKCOPY Command

The **DISKCOPY** command is used to copy the entire contents of a source diskette to a destination diskette. This seems to imply that the computer would need two floppy disk drives, however that is not the case. The DOS command **DISKCOPY** can be used with a single floppy drive. To use this command with one floppy drive and a hard disk, type: **DISKCOPY A: B:** <RETURN> and follow the instructions on the screen (mentally substituting an A: for B:). An advantage to using the DISKCOPY command is that your floppy disks do not have to be formatted for the command to work, which will save time.

PLEASE NOTE: It is always good practice to have a write protect tab on your original diskette before copying it.

A Command Recall Utility

Microcomputer users type many DOS commands in the course of a day. Many of us wish the computer could recall previously issued DOS commands for later use. The Command Editor (CED), a public domain program available from the Computing Center, provides such a capability.

CED is a memory resident program which keeps track of any text entered from the DOS prompt (remember, once a memory

resident program is invoked, the program will occupy a specific part of RAM until the computer is shut off or the program is disabled). After CED has been copied on to your hard disk, you can access it by typing CED. Once CED has been invoked, any text entered from the system prompt will be stored in memory and may be recalled. For instance, if you were to enter:

CD \WP <RETURN>

DIR <RETURN>

**CD ** <RETURN>

The default directory would be changed to WP, a directory listing of WP would be displayed, and the root directory would again become the default. Suppose you wanted to view a directory listing again. You would simply press:

< ↑ > < ↑ > <RETURN>

This would display a directory listing of the root directory. If you had pressed the up arrow (< ↑ >) α third time you would have changed the default directory to \WP. Using your up (< ↑ >) and down (< ↓ >) arrow keys provides selection from the stored DOS commands. A particular stored command may be edited by using the left (< ← >) and right (< → >) arrow keys.

The CED disk contains a good documentation file which can be printed out for use as a manual. This utility can save a great deal of time. To receive a copy of CED, bring a formatted, double density, double sided disk to the Computing Center (ISB 119 565-2324).

List File Tips In WordPerfect

From time to time you need to print out a complete directory of the WordPerfect 4.2 files on the printer. If you use **List Files** (<F5>), and **while the files are displayed on the screen**, use **Print** (<SHIFT> <F7>), you will get a printout of your files with beautifully aligned columns.§

Bizarre Computer Products

From time to time a computer product is "invented" that deserves a mention somewhere. Here's one we came accross the other day. ... ED

Creditte Memory*

Lately, much of the computer science literature has been devoted to the topic of cache memory. While cache memory is certainly a worthy topic, there is another advanced memory management technique that I feel is at least as important to the future of computing. I speak of CREDITTE MEMORY.

Let's start with an example. Imagine that you have a computer with 512K RAM (to make numbers easy) and that you use this computer 12 hours every day. What happens if you suddenly need to access more than 512K for a certain application? Well, if you use normal memory management techniques you'd better start shopping for more memory! If you use creditte memory, on the other hand, obtaining additional memory for short jobs is no problem.

The principle behind creditte memory is simple: If you need more memory than you have you can borrow it on the assumption that you "will have" the extra, eventually. Creditte memory is measured in "Klilobyte-hours," abbreviated K-hr. In the example above, our 512K byte PC actually possesses 1228 K-hrs (512K X 24 hrs) of memory each day. In simple operation this would be 512K and the computer could be in operation 24 hours a day. But in practice we're only using the machine 12 hours a day. That means we can utilize up to 1024K of RAM at any time, paying the additional 512K back during the 12 hours we're not using the computer. 1024K x 12 hrs = 12288 K-hrs, the same as before.

The memory taken "on creditte" need not be paid back the same day. Imagine that we need 2M of memory (2048K) for a large spreadsheet. If this is done on Friday and we take the weekend off there's no problem. Saturday and Sunday will more than pay back the debt to Friday's computation!

Now imagine that we're goint to take a 2 week vacation. That's 16 days (including the Saturday before we leave and the Sunday after we get back) that the computer won't be in use. 16 x 24 x 512K = 196608 K-hrs of memory is available to use before we leave! If we decided to use all our memory in just one hour Friday night we'd have 192 megabytes to play with. The perfect time to back up the hard disk!

I'm sure you can see the advantages to creditte memory. As long as the computer isn't in 24 hour use, it's easy to get extra memory on creditte and pay it off when the computer isn't in use. If you want to use creditte memory on your own IBM PC or compatible, go to your nearest computer store and ask for Entropy Enterprise's new "Creditte Card" half-slot expansion board. Available in 512K, 1M, and 2M versions. All versions have only an 18% annual percentage rate on long term creditte.

*From *NutWorks*, The Electronic Humor Magazine, Issue021 Volume VI, Number 1, January 1988 "Credutte Memory" by Steve King (HEINEKEN@MTUS5).

VAXEN

Personalizing the VAX/VMS MAIL Utility

By Darrell Davis, VAX OPERATOR,
(DARRELL@NTSUVAX)

This article is directed towards the user who has a basic understanding of the VAX/VMS MAIL UTILITY, who uses MAIL often and wishes to tailor the MAIL environment to suit his or her needs.

Basic Commands Refresher

Below is a list of basic MAIL commands and their functions:

1) DELETE - delete messages.
2) EXTRACT - copy the current message into a sequential file.
3) EXIT - exit the MAIL utility.
4) MOVE - place the current message in a folder.
5) FORWARD - forward the current message to other users.
6) READ/NEW - read new messages if any.
7) REPLY - reply to messages that other users send to you
8) SELECT - choose an existing folder.
9) SEND - send messages to other users.

You can also type **HELP** in the MAIL utility to see all the commands that are available.

Useful MAIL Tips

Following are some tips to make the MAIL utility work for you.

- **Using your favorite editor:**

  To automatically invoke the EDT editor with the REPLY, SEND and FORWARD commands, set up a symbol in your LOGIN.COM as such:

  ```
  MA*IL = = "MAIL/EDIT = (SEND,REPLY = EXTRACT,FORWARD)"
  ```

  You may omit any of the parameters in the parenthesis to suit your needs. The REPLY = EXTRACT parameter specifies that you want to include the message that you are responding to in the body of the reply.

  To invoke the TPU editor when using an editor in MAIL (EDT is the default editor), you must place the following logical definition in your LOGIN.COM:

  ```
  DEFINE MAIL$EDIT CALLABLE_TPU
  ```

- **Organizing your mail files:**

  The SET MAIL_SUBDIRECTORY command helps to keep all your mail files in one directory. Within MAIL type:

  ```
  SET MAIL_SUBDIRECTORY [.sub_directory_name]
  ```

  MAIL will create the subdirectory and will move all your mail files to the new directory.

- **Personalizing your username:**

  The SET PERSONAL_NAME command in MAIL enables you to append a field to the end of the "From:" field of mail messages you send. You can fill this field with your full name or any other information you desire. For example,

  ```
  SET PERSONAL_NAME "Allison Wonderland"
  ```

- **Personalizing destination addresses:**

  Logicals may be used to specify the destination address field of mail messages you send. This can be useful if you send mail often to groups of people, to users with long addresses or to users with hard to remember usernames. The logical definitions must be placed in your LOGIN.COM file. For example:

  ```
  DEFINE BOB ZY20
  DEFINE FRANK XX30
  DEFINE MYFRIENDS BOB,FRANK,ZZ02
  DEFINE PENPAL BITNET%""""HAL@SOMENODE""" ! Bitnet address
  DEFINE ADAM THENET_NODE::ADAM ! THENET address
  ```

  With the above logicals defined, you may now use the equivalence name in the "To:" field from MAIL. For example:

  ```
  MAIL > SEND
  To:     MYFRIENDS
  Subj:   How's it goin' ?
  How have you been?
  ```

  would send the message to users BOB, FRANK and ZZ02.

- **Mailing files from the command line:**

  To mail files from the command line without entering the MAIL utility, use the MAIL command as such,

  MAIL/SUBJECT = "Program One" PROGRAM.ONE TX00

  The above would mail the file PROGRAM.ONE to TX00. The /SUBJECT qualifier is optional.

- **A handy memo:**

  The following is a symbol that you can place in your LOGIN.COM to make sending short memos a breeze.

  NOTE = = "MAIL SYS$PUBLIC:NULL.TXT/SUBJECT = "

  With this symbol defined you can then mail short reminders to yourself from the DCL command line. For example,

  NOTE "Don't forget to get a job tomorrow." XY69

  would mail the message to user XY69.

For more information on the MAIL Utility, type **HELP MAIL** from the DCL command line or **HELP** from the 'MAIL' prompt. The best way to get the most use of the MAIL utility is to read all the HELP topics and experiment!§

VAXNotes

VAX Mail Problems

- **Editing the MAIL file:** NEVER type EDIT MAIL.MAI. If you do, your mail will be trashed and you will get the following error message when you try to use MAIL:

  %MAIL-E-FILECONFUSED, file 1DUA2:[RT07]MAIL.MAI;1
  is an ISAM file; expected a sequential file.
  A higher version exists that is sequential.

  If this occurs you should delete all of the MAIL.MAI files that have a version number greater than 1. If you need help doing this, please contact the VAX operators at 565-4161.

- **Phantom Mail Messages:** Sometimes you may receive the message "You have 1 new Mail message", but when you go into MAIL you don't find the mail message. There are several ways this problem can occur, but it is not really harmful. To fix it, you just need to type READ/NEW while inside MAIL. The VAX should then respond "No new messages"

GUEST Account Change

The GUEST account has been changed to a menu driven system, due to past abuse of the account. The current GUEST account allows people to run Computer Aided Instruction programs, read system HELP libraries, read VAX News, get information on how to apply for an individual account, and send a letter to the VAX operator. All people who wish to use the VAX should apply for an account from the Computing Center (ISB 119;565-2324).§

Copying Files Between VAX Accounts

By Darrell Davis, VAX Operator (DARRELL@NTSUVAX)

This article is concerned with copying files from one VAX account to another. Presumably, you are the owner of both accounts, and most often the case is transfering files from a class account to an individual account before the class account expires. First, some background info. All files (including directories) on the VAX have access protections associated with them. This assures that no one can read, copy, execute, etc. any of your files, unless you want them to. Even though you may be the owner of BOTH of the accounts involved, VAX/VMS treats the two accounts as having two different owners.

SETTING FILE PROTECTIONS

The first step in copying files is to make sure that the protection is set to WORLD access on two things:

1) On the directory that you are copying FROM. Log in to the account that you want to copy files FROM and type:

SET PROTECTION = (WORLD:RE) [-]*account*.DIR

Where *account* is your ACCOUNT name (ex. AC20). This sets the protection on your directory to WORLD access. If you are copying from a subdirectory, exclude the '[-]' and substitute the directory name for *account*.

2) On the files that you want to copy. To set the protection to WORLD access on the files to be copied type:

SET PROTECTION = (WORLD:RE) *filename.extension*

Where *filename.extension* is the name of the file to be copied. Wildcards are accepted. For example, substituting ***.*.*** for *filename.extension* would set the protection to WORLD access on ALL the files in your directory.

COPYING THE FILES

Now we are ready to copy the files. We will use the BACKUP utility to accomplish this operation. The BACKUP utility differs from the COPY command in that it makes an IDENTICAL copy of the original file, including the revision date, creation date, protection, etc. whereas COPY makes a 'new copy'.

Log in to the account that you want to copy the files TO and type:

BACKUP/LOG *from to*/NEW

Where *from* and *to* are the complete file specifications of the files to be moved. If you want to just keep the old filenames as they were type *.*.* for *to*. A complete spec is as follows:

device:[directory]filename.extension;version_number

Where 'device' is DUA2 or DRA0 and 'directory' is normally your account. The version number is optional: if you omit it, BACKUP will copy all versions of the file. /LOG indicates that you want to display each file spec as it is being processed. For example:

```
BACKUP/LOG DUA2:[AC20]LOGIN.COM DRA0:[XX00]/NEW
```

would copy the file LOGIN.COM from account AC20 to account XX00. /NEW insures that a new version is created if another file in the destination directory has the same name.

```
BACKUP/LOG DUA2:[AC20] DRA0:[XX00]/NEW
```

would copy ALL the files from account AC20 to account XX00.

If you have subdirectories and you want to copy all the files including the subdirectories to another account you could type:

```
BACKUP/LOG DUA2:[AC20...] DRA0:[XX00]/NEW
```

or even better:

```
BACKUP/LOG DUA2:[AC20...] DRA0:[XX00.AC20...]/NEW
```

The above will create the subdirectory AC20.DIR in account XX00 and copy all the files and subdirectories to the new subdirectory. **Note that you must have all the protections set properly on ALL files and subdirectories for BACKUP to function properly** (see "SETTING FILE PROTECTIONS" above).

For more info on the BACKUP command, type **HELP BACKUP**.

Resetting The File Protections

The only problem with the method described above is that during this procedure the protection on your files is set to WORLD access. This means that anyone can copy, read,edit, etc. the files that are set to WORLD access. To reset the protection, in both accounts, log in to each account and type:

SET PROTECTION = (WORLD) *.*.*

This will reset the protection on ALL your files to NO WORLD access.

For more info on the SET PROTECTION command type **HELP SET PROTECTION**.

More Help

Besides the on-line help for the above commands, you can consult the various manuals around campus (for more info type **HELP MANUALS**). If you are still confused, don't hesitate to send mail to OPERATOR for help moving your files. Good luck ! §

December Top Ten Programs: Frequency of Runs

Program	Description	Number of Runs	Percent of Total
1. SET	VMS Utility	20253	14.2
2. SEARCH	VMS Utility	17799	12.5
3. DELETE	VMS Utility	15378	10.8
4. LOGINOUT	User login	14801	10.4
5. TYPE	VMS Utility	12523	8.8
6. SHOW	VMS Utility	12144	8.5
7. DIRECTORY	VMS Utility	8166	5.7
8. NETSERVER	DECnet Server	7787	5.5
9. EDT	Editor	3626	2.5
10. User programs	Compiled Programs	3008	2.1
Total		142458	

December Top Ten Programs: CPU Time Used

Program	Description	CPU Time	Percent of Total
1. User programs	Compiled Programs	0 17:06:52.85	25.6
2. BACKUP	VMS Utility	0 06:43:40.04	10.1
3. SVAXIMA	Macsyma	0 06:11:26.79	9.3
4. PASCAL	PASCAL compiler	0 04:29:48.26	6.7
5. EDT	Editor	0 04:21:18.53	6.5
6. ACC	VMS Accounting Util.	0 03:07:31.44	4.7
7. RSX	Emulator of RSX OS	0 01:58:08.96	2.9
8. XYZZY	BITNET Chatting Util.	0 01:55:59.19	2.9
9. LOGINOUT	User login	0 01:45:47.25	2.6
10. SEARCH	VMS Utility	0 01:33:49.62	2.3
Total		2 18:53:07.05	

COMPUTER JOKE OF THE MONTH

Q: *How many data base people does it take to change a lightbulb?*

A: Three:

- One to write the light bulb removal program,
- One to write the light bulb insertion program, and
- One to act as a light bulb administrator to make sure nobody else tries to change the light bulb at the same time.

ADMINISTRATIVE INFORMATION SYSTEMS

Requesting Extended Hours on Administrative Production COM-PLETE

By Douglas Heruska, Documentation Specialist

From time to time Administrative users need to access the production system outside the usual schedule. Normal operating hours for Administrative production COM-PLETE (including SIMS) is from 7:00 am to 7:00 pm Monday through Friday. The rest of the time (7:00 pm until 7:00 am daily and 7:00 pm Friday until 7:00 am Monday) is considered open time for heavy batch processing, maintenance, and backups.

If an individual or department needs access outside of the normal hours, a request for extended hours must be made to the appropriate Computing Center personnel. You should make a verbal request, stating the date and inclusive hours needed, to the Applications Project Team Leader responsible for your area. The Team Leader will then submit the appropriate form for approval of the other team leaders. If you are not sure who the correct person is for your department, call the main Computing Center (565-2324) and ask for the Manager of Information Systems.

Most of the time a request is approved, however there are times that a request for extended hours may be denied. Reasons for a disapproval will vary, but it is normally because of heavy batch processing requirements during the requested time. Whether a request is approved or denied the Team Leader will contact the requesting person informing them of the action and reason.

The following guidelines are recommended when requesting extended COM-PLETE access.

- If the request is for "keeping the system up late" during the week (Monday-Friday), it must be initiated no later than 3:00 pm of the day for which the request is made.
- If the request is for "having the system up on the weekend," it must be initiated no later than 12:00 noon on Friday before the weekend for which the request is made.
- You should identify the userids that will be used during the extended access period so that the userids can be modified to allow LOGON during the extended period.

Failure to meet these guidelines may result in a request being disapproved. Sufficient time must be allowed to coordinate the action of all the people involved. Initiating requests earlier than these limits is strongly encouraged to assist in getting the requests approved.§

Staffing Changes

By Douglas Heruska, Documentation Specialist

Some new employees have joined the Administrative Information Systems staff since last semester. Carol Coleman, a local Denton resident, is a new member of the Fiscal Team. She had been working in downtown Dallas at Southwestern Life Insurance. Carol has over five years of programming experience and filled the open TCOM position of Programmer/Analyst. Jennifer Anderson is another addition to the Fiscal Team. She filled the vacant Programmer position. Jennifer is a graduate of the BCIS department here at NTSU and had been working for the Dallas County Community Colleges as a research programmer. We are pleased to have Carol and Jennifer working with us and look forward to benefiting from their expertise.

Other changes in Administrative Information Systems include several resignations. Elson Dee and Carol Newman have returned to their former positions at Moore Business Systems. They were members of the Fiscal and General Systems teams, respectively. Rosemary Griffith, who worked in Data Control, also resigned. She returned to her role as a full-time student and is planning to finish her degree. We will miss all of them and wish them the best of luck in all their endeavors.§

OPERATIONS

NAS/8083 Dual Processor Performance Statistics for December

CPU	SYSTEM	Scheduled Operating Hours	Planned Maintenance Hours	Planned Production Hours	Unplanned Maintenance Hours	Production Hours Achieved	System Uptime
ACAD	VM/SP3	744	0.00	744.00	0.36	743.64	99.9%
ACAD	MUSIC/SP	744	40.28	703.72	1.22	702.50	99.8%
ACAD	MVS/JES2	744	0.00	744.00	1.43	742.57	99.8%
ACAD	COMPLETA	744	0.00	744.00	4.35	739.65	99.4%
ADMN	MVS/JES2	744	0.00	744.00	0.72	743.28	99.9%
ADMN	COMPLETA	226	0.00	226.00	1.79	224.21	99.2%
ADMN	ADABASA	744	18.25	725.75	2.34	723.41	99.7%

System Uptime = (Production Hours Achieved) / (Planned Production Hours)

Production Hours Achieved = (Planned Production) – (Unplanned Maintenance)

Scheduled Operating Hours = (Planned Maintenance) + (Planned Production)

MUSIC/SP Planned Maintenance Hours include 25.71 hours for system backup and 14.57 hours for VM/SP3 system backup.

ADABASA'S Planned Maintenance Hours include 18.25 hours for system backup.

The ACAD CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime. The ADMN CPU achieved 100% uptime; the NAS/7360 DASD achieved 100% uptime; the NAS/7380 DASD achieved 100% uptime.

Lost productivity is calculated as the greatest amount of elapsed time that any one of the production systems was unavailable for scheduled operation. Lost productivity hours were contributed to by the key causes appearing in the tables below.

ACAD CPU:

Miscellaneous

1. Operator IPL training.	1.64 HOURS
2. COMPLETA system maintenance.	2.42
3. VM/SP3 system tuning/improvements.	0.30
TOTAL:	4.79 HOURS
GRAND TOTAL FOR ACAD	4.79 HOURS

ADMN CPU:

Miscellaneous

1. Undetermined causes for systems restarts.	0.45 HOURS
2. MVS/JES2 system tuning/improvements.	1.64
3. Operator IPL training.	0.50
4. COMPLETA system tuning/improvements.	0.32
5. COMPLETA system down to process single jobs.	0.39
TOTAL:	3.30 HOURS
GRAND TOTAL FOR ADMN:	3.30 HOURS

Disk Backup Schedules

Backup Schedule for OS/MVS

OS/MVS disk packs (academic and administrative) are backed up daily, Tuesday through Saturday, from 4-6:30 a.m., and Sunday from Midnight to 3 a.m. A backup of all the operating systems on the NAS CPU and their contents is done once every two weeks at some low activity period over a weekend.

MUSIC/SP Backup Hours

A message will be sent to all users signed on to MUSIC/SP approximately 10 minutes before backups are begun. It will be in the form **MUSIC SHUT DOWN AT xxxx AM-SCHEDULED BACKUP **. To find out the backup hours while signed on to MUSIC/SP, enter **HELP HOURS**. The following backup schedule is currently in effect:

Tuesday 3 a.m. (for about 3 hours) Weekly backup
Wednesday - Saturday 4 a.m. (for about 2 hours) Daily backup
Saturday Midnight (for about 2 hours) Daily backup

PHOENIX Backup Schedule

PHOENIX is backed up weekly on Sunday night. The backup begins at midnight and lasts for approximately 30 minutes.

VAX Backup Schedule

Incremental backups of the VAXcluster are performed Monday through Thursday at 6 p.m. Users do not have to log-off, but any files that are open at the time of the backup will **NOT** be backed up.

Full backups of both systems are done every Friday beginning at 8 a.m. These generally will take all day to complete. Again, users do not have to log-off, but any files that are open will not be backed up.

A "Stand Alone" backup of the system disk is done once every two months. This procedure makes a copy of the system disk that can be used to restore its contents if the disk is completely destroyed. The system will be shut-down for this. Watch the system log-on message for specific times and dates. **NOTE:** Requests for restoration of files should be made via MAIL to the username OPERATOR. Your file can only be restored if it existed before the last backup was done. §

TECHNICAL SUPPORT

ACADemic (NAS) Program Hit Parade*

he following programs were used the most frequently on the NAS CPU during the month of December.

ECEMBER TOP TEN PROGRAMS : FREQUENCY OF RUNS

	Program	Description	Number of Runs	Percent of Total
1.	IEWL	Linkage Editor	13325	14.6
2.	PGM=*.DD	Compiled Program	12042	13.2
3.	IKFCBL00	VS COBOL Compiler	10854	11.9
4.	IEBPTPCH	IBM List Utility	9870	10.8
5.	IEV90	Assembler H	8177	9.0
6.	IDCAMS	VSAM Utility	4791	5.3
7.	IEBGENER	IBM Utility	4734	5.2
8.	SCRIPT	Waterloo/SCRIPT	4277	4.7
9.	SASLPA	SAS	3920	4.3
0.	IEFBR14	IBM Null Utility	3213	3.5

DECEMBER TOP TEN PROGRAMS: CPU SECONDS USED

	Program	Description	CPU Seconds	Percent of Total
1.	PGM=*.DD	Compiled Program	40754	27.0
2.	SASLPA	SAS	21962	14.52
3.	SPSSX	SPSSX	15989	10.6
4.	IKFCBL00	VS COBOL Compiler	15630	10.3
5.	SCRIPT	Waterloo/SCRIPT	11990	7.9
6.	ADARUN	ADABAS Utility Module	10320	6.8
7.	IEV90	Assembler H	4429	2.9
8.	IEWL	Linkage Editor	2925	1.9
9.	BMDPLR	BMDP Program	2500	1.7
10.	ISTINM01	VTAM Utility	2391	1.6

ACAD is the official designation of the part of the NAS/8083 CPU that is dedicated to faculty and student use. The portion of the computer reserved for Univer- dministrative purposes is termed ADMN. §

INDEX TO BENCHMARKS, VOLUME 8 (1987)

NEW POLICIES, PROCEDURES, AND OTHER IMPORTANT STUFF

JANUARY/FEBRUARY

Madron Named Executive Director of NJECN 1
Transitions in Academic Computing Staff 2
Computing Center Spring Short Courses 2
Spring Break Hours for Computer Access Areas 3
MLA on BITNET 3
Computer Resource for Communications Professionals 3
Talk About Personal Computing 4
How Accurate are Computer Results? 4
BMDP Updated 6
New SAS Publications Announced 7
Problem With SAS PROC SYSLIN 7
News from SPSS Inc. 7
TCOM News 9
Computer Video Graphics Sought 9

MARCH

Third Artificial Intelligence Symposioum to be Shown 1
New Separator Page on All Printouts 1
Enforcement of Disk Dataset Naming Convention Tightened . 2
New Color Printer Installed in Graphics Lab 3
Staff Presentations, Publications 3
Departmental Swap & Sell 3
Whoops! 3

APRIL

New MUSIC Manual Available 1
Tips for Using the MUSIC MEMO Facility 1
New Version of SPSSX 2
Changes in the Print Environments on the Laser Printer 3
"Using PHOENIX Library" Available 5
Using the SPSSX MANOVA Procedure 5
Working Papers on Personal Computers 7
The ICPSR Summer Program 7

MAY

It's Not Too Early to Renew Your UserID! 1
Computing Center Summer I Short Courses 1
Getting HELP on MUSIC 2
Advanced Statistical Procedure Module for SAS/PC Arrives .. 2
Free PC Stat Package Available to Academicians 3
Staff Professional Activities 3
Departmental Swap & Sell 3

JUNE/JULY

Manager of Academic Computing Resigns 1
Academic Database Consultant Resigns 1
Computing Center Reorganization 1
Renew That UserID! 1
Highlights From the Fort Worth MUG 2
Computing Center Summer II Short Courses 3

GENERAL INFORMATION

AUGUST/SEPTEMBER

Welcome Back 1
Help Available in Terminal Access Rooms 2
Research Grant Accounts 2
Desktop Publishing Comes to the Computing Center 2
Molta Becomes Hardcopy Product Reviewer 2
Computing Center Short Courses 3
1987 Software Highlights 4
NTSU Computing Center Policy and Procedure Highlights .....
Computing at TCOM 10
Using #EXCHANGE to Help Manage Your MUSIC Save-Library Space 11
Repeated Measures Analysis in SPSSX 12
NTSU Faculty, Staff Members Attend ICPSR Summer Session 13
BENCHMARKS Forum 14

OCTOBER

BENCHMARKS Standards 1
UserIDs Disabled 1
Node News is Good News 1
Computing Center Short Courses 1
What's News? 3
Spotlight on MUSIC 1.2, Part I - VSAM 3
BENCHMARKS Forum 4

NOVEMBER

New Academic Computing Staff 1
New Laser Printer at the College of Business RJE Station 1
Do You Know Your Password? 1
New Graphics Plotter for AUTOCAD and SAS/GRAPH 1
Avoiding the Printer Turnaround Blues 2
Spotlight on MUSIC 1.2, Part II - Commands and Job Control Statements 3

BENCHMARKS Forum 4

DECEMBER

Classroom User-ID Codes to be Deactivated 1
Desktop Publishing User's Group Formed 1
NTSU Libraries' Bibliographic Data Base Available On-line .. 1
Time-out Instituted on 3270 Lines 2
Spotlight on MUSIC 1.2, Part III - The Context Editor 2
Comfort Tips for Computer Users 2
Electronic Publishing Day at INFOMART 5
BENCHMARKS Forum 5

MICROCOMPUTERS

JANUARY/FEBRUARY

New PCWS EXEC Available 10
Cancelling Call Waiting 10
BBS for TIs and DRs 10
Unix on a PC 11

MARCH

PC-SIG Library Available 4
Discounted WordPerfect Corporation Software Available to Students 4
Announcing the North Texas RBBS 4

APRIL

Running SAS/PC Programs on CMS 8
CSE: A Public Domain Editor for the TI Professional Computer 9
Newsletter Available for WordPerfect Users 9
WordPerfect Mailing Labels and Blank Lines 10
Version 2.4.2 Procomm Available 10

MAY

PC-SIG Program Review 4
Status Report for Office Automation Classes (Jan.-Apr. 1987) 5
WordPerfect's Line Numbering Feature 5

JUNE/JULY

KERMIT, A File Transfer Protocol 3 Status Report for Office Automation Classes 4
Exporting Your SPSSX Dataset to SPSS/PC+ 4

AUGUST/SEPTEMBER

Office Automation News 15
Lotus 1-2-3 - Using Printer Setup Strings 15
Micro-Tips 17

OCTOBER

Cataloging Your Floppy Disk Collection - WSSINDEX 6
Using Kermit with Procomm 6 Micro-Tips 7

NOVEMBER

PCWS - A Communications Program to be Used with MUSIC/SP 6
Micro-Tips 7
Micro-Tips Addendum 8
Obtaining WSSINDEX 8

DECEMBER

Speeding up Your WordPerfect Work 7
PC-SIG Library Updated 7
Holiday Reading Suggestion 8
Micro-Tips 8

VAXEN

JANUARY/FEBRUARY

New Utility Menu 11
BITNET News 12
BITNET and CSNEWS 12

MARCH

How to Submit Your JCL Programs Directly to MVS FROM the VAXen 5
The New PRTMENU 6
New UNREAD Command 6

APRIL

Using GMAIL on the VAXcluster 11
VAX Terminals in the 5th Floor GAB LAB 12

MAY

Average Number of Terminals Logged-On to the VAXcluster During April 1987 6
Guide to Useful VMS Utilities 7

JUNE/JULY

Net-Mailer 6
NTSUVAX Bitnet Address 6

AUGUST/SEPTEMBER

DECNET and ETHERNET - A Winning Combination 18
DECUS Software on the VAX 18
New System Disk Drive for VAXcluster 18

OCTOBER

VAXcluster Connected to TEXNET 8
1987 VAXcluster Highlights 8

NOVEMBER

Cluster Upgraded to VMS 4.6 9
FTP Now Available on the VAXcluster 9
New VAX Suggestion Box 9

Recovering Files Lost During an Edit Session 10
Using the VAX TPU Editor 10

DECEMBER

How to Define Your Keypad on the VAX 9
UNIX and C Mailing List Available 9
Using the VAX/VMS Debugger 9
Using the EDT Editor from VMS Mail 10

INFORMATION SYSTEMS

MARCH

Information Systems News 9

APRIL

Information Systems News 16

AUGUST/SEPTEMBER

COM-PLETE Program Services 21

OCTOBER

Staffing Changes in Information Systems 10

NOVEMBER

HRMIS System Status Report 11
Staffing Changes in Information Systems 11

DECEMBER

Administrative Mail and Distribution Lists 11
Staffing Additions 11
HRMIA Security Authorization 11

OPERATIONS

JANUARY/FEBRUARY

Disk Backup Schedules 13
NAS/8083 Dual Processor Performance Statistics for December 14
NAS/8083 Dual Processor Performance Statistics for January 15

MARCH

Disk Backup Schedules 7
NAS/8083 Dual Processor Performance Statistics for February 8

APRIL

Disk Backup Schedules 13
NAS/8083 Dual Processor Performance Statistics for March. 13

MAY

Disk Backup Schedules 8
NAS/8083 Dual Processor Performance Statistics for April 9

JUNE/JULY

Disk Backup Schedules 6
NAS Performance Statistics for MAY 6

AUGUST/SEPTEMBER

Disk Backup Schedules 19
NAS/8083 Dual Processor Performance Statistics for June 19
Operations Trivia 20
NAS/8083 Dual Processor Performance Statistics for July 20

OCTOBER

NAS/8083 Dual Processor Performance Statistics for August 10.....
Disk Backup Schedules 11

NOVEMBER

Disk Backup Schedules 12
NAS/8083 Dual Processor Performance Statistics for September 12

DECEMBER

NAS/8083 Dual Processor Performance Statistics for October 12
Disk Backup Schedules 13

TECHNICAL SUPPORT

JANUARY/FEBRUARY

ACADemic (NAS) Program Hit Parade 16

MARCH

ACADemic (NAS) Program Hit Parade 9

APRIL

ACADemic (NAS) Program Hit Parade 15

MAY

ACADemic (NAS) Program Hit Parade 10

JUNE/JULY

ACADemic (NAS) Program Hit Parade 8

AUGUST/SEPTEMBER

ACADemic (NAS) Program Hit Parade 22

OCTOBER

ACADemic (NAS) Program Hit Parade 12

NOVEMBER

ACADemic (NAS) Program Hit Parade 13

DECEMBER

ACADemic (NAS) Program Hit Parade 13

Registration Form for Computing Center Short Courses

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling 565-2324.

NAME:_____ PHONE:_____

DEPT:_____ CLASSIFICATION:_____

I wish to attend:

- **Introduction to MUSIC/SP, Part I (ISB 110):**

  ___ Monday, February 22: 9-11 a.m. ___ Monday, March 28: 9-11 a.m.

  ___ Tuesday, February 23: 3-5 p.m. ___ Tuesday, March 29: 3-5 p.m.

  ___ Friday, February 26: 1-3 p.m. ___ Friday, April 1: 1-3 p.m.

- **Introduction to MUSIC/SP, Part II (ISB 110):**

  ___ Monday, February 29: 6-8 p.m. ___ Monday, April 4: 3-5 p.m.

- **Introduction to IBM JCL (ISB 123):**

  ___ Wednesday, Feburary 24: 1-3 p.m.

- **Introduction to SAS (ISB 110):**

  ___ Thursday, February 25: 6-8 p.m. ___ Thursday, March 31: 3-5 p.m.

- **Introduction to SPSS-X (ISB 110):**

  ___ Wednesday, February 24: 6-8 p.m. ___ Wednesday, March 30: 3-5 p.m.

- **File Handling With SAS, SPSS^X & BMDP (ISB 123):**

  ___ Monday, February 29: 1-3 p.m. ___ Monday, April 4: 1-3 p.m.

- **Introduction to VAX/VMS, Part I (ISB 110):**

  ___ Thursday, February 25: 2-5 p.m. ___ Monday, March 28: 2-5 p.m.

- **Introduction to VAX/VMS, Part II (ISB 110):**

  ___ Tuesday, March 1: 1-3 p.m. ___ Tuesday, April 5: 1-3 p.m.

- **Introduction to BitNet (ISB 110):**

  ___ Wednesday, February 24: 3-5 p.m. ___ Wednesday, March 30: 6-8 p.m.

- **Introduction to SPSS PC+ (Matthews Hall, Room 350):**

  ___ Wednesday, February 17: 2-5 p.m.

- **Introduction to SAS PC (Matthews Hall, Room 350):**

  ___ Thursday, February 18: 2-5 p.m.

- **I would like to see more classes offered**: ____ on weekends; ____at night.

The classes I am interested in are:_____

Academic Computing Services
The Computing Center
NT Box 13495
North Texas State University
Denton, TX 76203

Get a Subscription to BENCHMARKS

Benchmarks is a vital link between the NTSU Computing Center and the users of our facilities. It is important for all users of the computing facilities to maintain a file of these newsletters because they contain materials which will periodically update existing documents as well as information and suggestions on uses of OS/MVS, MUSIC/SP, the VAXcluster, Microcomputers, and other resources available to NTSU students and faculty. To facilitate the dispersal of *Benchmarks*, *** FREE *** subscriptions are available. To receive yours, send the following information to us either by snail mail (the post office or campus mail) or electronically, to the UserID AS04 on MUSIC, VMS, or CMS.

Name:_____

Mailing Address:_____

_____

_____

PLEASE GIVE A CAMPUS ADDRESS (NOT BOX) IF POSSIBLE! - It's Cheaper !!

___ Renewal ___ Change of Address ___Cancel Subscription

Academic Computing Services
The Computing Center
NT Box 13495
North Texas State University
Denton, TX 76203